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pearance. The little one seemed ashamed of its juvenile clothes and could be seen sitting on the tent pulling out the old fuzzy feathers as fast as it could. It would grab a piece of down, brace itself and give a hard yank and out came the feather.

By this time the hawks began to hop around on the boxes and liked to sit on top of the tent when the sun was shining. They were very sociable and would come into the tent when allowed to do so, and showed much interest in the work



YOUNG ROUGH-LEGGED AND DUCK (TWO AT RIGHT) HAWKS,
PHOTOGRAPHED JULY 12, 1907

being carried on, showing especial interest in the bird bodies. Often they would find a roll of cotton or some other soft warm place and nestle down and go to sleep.

On July 21 the larger bird weighed twenty-six ounces and the smaller one twenty-five ounces. They seemed to have reached almost their full size and the large one began to fly on this date. He was particularly "sassy" and was ready to fight anything at any time.

As the birds were sitting on top of the tent a crow came "cawing" over them. They both let out a defiant duck hawk war cry and did not seem to be in the least afraid. The smaller one died a few days later and from that time on I heard the older one utter the duck hawk yell only once. He seemed to miss his mate very much and spent most of the time gazing wistfully up into the blue.

On July 23, or practically six weeks after they hatched, the oldest duck hawk was able to fly and after that I had to keep him tied to a long piece of fish line to keep him from flying away altogether.

Palo Alto, California.

SUMMER BIRDS OF THE TULARE LAKE REGION

By E. A. GOLDMAN

THE Tulare Lake region occupies a depression along the western side of the southern part of the San Joaquin Valley in California. Besides Tulare Lake it may be understood to include the marshy areas from Summit Lake on the north to Kern Lake and Buena Vista Lake on the south. Summit Lake, perhaps less known than the others, is a small sheet of open water in the delta of Kings River, hemmed in by floating masses of peat and wooded islands. The sluggish currents of various sloughs carry the river waters away in two directions—northward to the San Joaquin River and southward to Tulare Lake.

In the course of field work for the Biological Survey the writer visited the region in the early summer of 1907, remaining from June 18 to July 12. Small collections of birds were made at Summit Lake, at various points along the northern

and western shores of Tulare Lake from east of the mouth of Kings River to the mouth of Kern River, along Buena Vista Slough and at Buena Vista Lake. Special attention was given to breeding water birds, but the land species were not entirely neglected.

Successive years of drought had been followed by two very wet seasons, and at the time of my visit Tulare Lake was higher than for many years. The lake waters in spreading had moistened or partially submerged thousands of acres of land on which a rank new growth of tules and coarse grasses was springing up, affording unusually favorable breeding grounds for birds. Yet few species were nesting in abundance. In the vicinity of Summit Lake local conditions seemed suitable, but water birds were surprisingly scarce. This lake was a place of unexpected natural beauty, its floating peat islands and gracefully overhanging banks of bright green foliage contrasting strongly with the summer aridity of the neighboring San Joaquin plains.

The specimens obtained are in the Biological Survey Collection, and have been identified by Mr. H. C. Oberholser.

The nesting of the Green-winged Teal (*Nettion carolinense*) in California has been already noticed.^a

Among other birds in the following list whose known breeding ranges were materially extended are *Toxostoma lecontei*, and *Amphispiza nevadensis canescens*.

***Echmophorus occidentalis*.** Western Grebe. Several were seen in Tulare Lake, near the mouth of Kings River, June 18-23.

***Podilymbus podiceps*.** Pied-billed Grebe. Common along the shores of Tulare Lake; noted in Summit Lake, Buena Vista Lake, and in numerous sloughs. A number of nests were found floating in water about two feet deep, among thin tules near the mouth of Kings River, June 18-24; some contained hatching eggs and others had been already abandoned.

***Sterna forsteri*.** Forster Tern. Common in flocks near the mouth of Kings River, at the north end of Tulare Lake, June 18-24. Two specimens procured were not breeding.

***Hydrochelidon nigra surinamensis*.** Black Tern. A few solitary birds were seen at various points along the north and west shores of Tulare Lake, June 18 to July 7. A female specimen obtained June 23 was in breeding condition.

***Phalacrocorax auritus albociliatus*.** Farallone Cormorant. A large rookery was found in the mouth of Kings River, at the north end of Tulare Lake, June 19. Hundreds of nests in willows, standing in the water, contained young birds most of which were one-half to two-thirds grown. One adult specimen, June 23rd.

***Pelecanus erythrorhynchos*.** White Pelican. Large, loose flocks were seen daily while along the north and west shores of Tulare Lake, June 18-24 and July 6-8. A man who was gathering drifting lumber reported finding a nest containing eggs, on a small island near the west shore, about June 25.

***Anas platyrhynchos*.** Mallard. Breeds in small numbers. At the time of my visit the birds were apparently thru nesting. Large-sized young were swimming or flying about. Specimens were obtained at Summit Lake, June 26, and on the west side of Tulare Lake, July 7.

***Nettion carolinense*.** Green-winged Teal. A few were breeding along the west shore of Tulare Lake, July 7. A brooding bird was shot as she rose from a nest containing seven fresh eggs. Several other females were seen with recently

^a See CONDOR, Vol. X, No. 3, May-June, 1908, p. 129.

hatched young already in the water. A female and a downy young were secured as specimens.

Querquedula cyanoptera. Cinnamon Teal. After the pintail this species was next in abundance among the breeding ducks about Tulare Lake, and was noted at intervals along the sloughs south to Buena Vista Lake. Apparently all were thru nesting by June 18, and on and after that date numerous parties of five or six consisting of the adult female and brood of young were seen. Many of the young were already nearly full-grown. The adult males were more shy and usually kept out of sight. Several specimens, females and young, from Tulare Lake.

Spatula clypeata. Shoveller. A specimen was obtained and others with small young were seen at the north end of Tulare Lake, June 18-24.

Dafila acuta. Pintail. By far the most abundant breeding duck thruout the region. A female shot June 21 at the north end of Tulare Lake contained an egg about ready to lay; on the same date several adults with young large enough to make short flights were seen.

Marila americana. Redhead. A pair was seen at the north end of Tulare Lake, June 19.

Erismatura jamaicensis. Ruddy Duck. Several females with small young were observed along the north shore of Tulare Lake, June 18-24, and along the west side of the Lake, July 7; two specimens, an adult female and small young.

Dendrocygna bicolor. Fulvous Tree-duck. A pair was seen flying along the north shore of Tulare Lake, June 23. At Summit Lake one of a pair which flew over the boat was killed, June 27; it proved to be a male in breeding condition.

Plegadis guarauna. White-faced Glossy Ibis. Pairs and small flocks were observed occasionally from Summit Lake to Buena Vista Lake. A specimen was not in breeding condition.

Botaurus lentiginosus. Bittern. Solitary birds were noted at intervals, in marshes from Summit Lake to Buena Vista Lake.

Ardea herodias. Great Blue Heron. One or more were seen nearly every day while in the Tulare Lake region. Said to nest in the valley oaks (*Quercus lobata*) a few miles southeast of Summit Lake.

Herodias egretta. Egret. Not very abundant; noted at intervals from Summit Lake to Buena Vista Lake.

Butorides virescens anthonyi. Anthony Green Heron. Common thruout the Tulare Lake region. A few nests containing young about ready to fly were found in half-submerged willows near the mouth of Kings River, June 22.

Nycticorax nycticorax naevius. Black-crowned Night Heron. Abundant everywhere in the marshes from Summit Lake to Buena Vista Lake. Breeds in considerable numbers among the willows near the mouth of Kings River. Numerous old nests were seen, and a few still contained young birds about ready to fly, June 22; one specimen, Tulare Lake, June 23.

Grus mexicana. Sandhill Crane. Three only were seen in the marshy land at the south end of Tulare Lake, July 8.

Rallus virginianus. Virginia Rail. This species was met with only along the marshy bottom of the Arroyo Los Gatos, northwest of Tulare Lake; one was shot and several others heard, July 1.

Fulica americana. Mud-hen; Coot. A moderately abundant breeder thruout the Lake region. Numerous floating nests were found among tules along the north shore of Tulare Lake, June 18-24; some contained fresh or hatching eggs, and many

others were already abandoned. Young of various sizes up to half-grown were swimming about, some accompanied by a parent bird and others by themselves.

Steganopus tricolor. Wilson Phalarope. One was shot on the west shore of Tulare Lake as it flew in company with a flock.

Recurvirostra americana. Avocet. Abundant thruout the Lake region. Often seen in large, loose flocks between June 18 and July 12; one shot near the mouth of Kern River was in breeding condition, July 8.

Himantopus mexicanus. Black-necked Stilt. Very abundant along the shores of Tulare Lake. Nesting at the mouth of Kings River, June 23, and along the west shore of the Lake, July 7; on the latter date most of the birds were still flying about in large, loose flocks; one specimen, June 23.

Macrorhamphus scolopaceus. Long-billed Dowitcher. Several small flocks were flying along the southwestern shore of Tulare Lake, July 8; specimens obtained showed no signs of breeding.

Ereunetes mauri. Western Sandpiper. Large, close-flying flocks were noted, and specimens taken, along the west shore of Tulare Lake, July 7-8.

Numenius americanus. Long-billed Curlew. A few were seen near the mouth of Kings River, June 18-24; not noted elsewhere.

Oxyechus vociferus. Killdeer. Common near water thruout the region.

Lophortyx californicus vallicola. Valley Quail. Occurs wherever there is suitable cover. A few were seen at Summit Lake, along the west side of Tulare Lake, and at Buena Vista Lake. The species is more abundant in the foothill region bordering the San Joaquin Valley.

Zenaidura macroura carolinensis. Mourning Dove. Abundant thruout the area covered; still breeding as late as July 30.

Cathartes aura septentrionalis. Turkey Vulture. Seen occasionally.

Circus hudsonius. Marsh Hawk. One only was seen near Summit Lake June 26.

Buteo borealis calurus. Western Red-tail. Not uncommon thruout the region; one specimen from Stanley, northwest of Tulare Lake, June 30.

Falco sparverius phalæna. Sparrow Hawk. Common.

Aluco pratincola. Barn Owl. Common. Several were seen in woods at Summit Lake, and Buena Vista Lake, and in holes along the steep banks of arroyos near the west shore of Tulare Lake.

Asio wilsonianus. Long-eared Owl. Several were met with in a heavy growth of large willows near the mouth of Kings River; one specimen.

Otus asio bendirei. California Screech Owl. One specimen was taken in thin woods on the Arroyo Los Gatos, northwest of Tulare Lake, June 30. One other was seen, and others were heard at Summit Lake and Buena Vista Lake.

Bubo virginianus pacificus. Pacific Horned Owl. Heard during nights at Summit Lake and Buena Vista Lake; one specimen—a young bird about two-thirds grown from Summit Lake.

Speotyto cunicularia hypogæa. Burrowing Owl. Abundant.

Geococcyx californianus. Road-runner. Noted occasionally; more abundant in the foothill region.

Coccyzus americanus occidentalis. California Cuckoo. Rather common in willow thickets from Summit Lake to Buena Vista Lake; one specimen.

Dryobates pubescens turati. Willow Woodpecker. Common among willows at Summit Lake; one specimen, breeding at the north end of Tulare Lake, June 20.

Colaptes cafer collaris. Red-shafted Flicker. Rather common in willow woods

at Summit Lake, June 26, the north end of Tulare Lake, June 18-24, and on Buena Vista Lake, July 11-12.

Chordeiles acutipennis texensis. Texas Nighthawk. Common. Nesting near the mouth of Kern River Canyon, east of the Tulare Lake region, July 17.

Tyrannus verticalis. Arkansas Kingbird. Generally distributed and breeding in abundance.

Myiarchus cinerascens. Ash-throated Flycatcher. A few were nesting among the willows at Summit Lake, June 25. Noted at Buena Vista Lake, July 11; one specimen from Summit Lake, June 25.

Sayornis nigricans. Black Phoebe. Seen occasionally all thru the Lake region; most numerous along sloughs bordered by willows.

Empidonax traillii. Traill Flycatcher. Rather common in willow thickets and tule marshes.

Otocoris alpestris actia? Mexican Horned Lark. Horned larks, probably this form, breed in abundance.

Pica nuttalli. Yellow-billed Magpie. Noted only among the valley oaks (*Quercus lobata*) near Summit Lake where a few were nesting, June 25; one specimen.

Aphelocoma californica. California Jay. Not uncommon among the willows at the mouth of Kings River, June 22, at Summit Lake, June 25, and at Buena Vista Lake, July 11.

Corvus corax sinuatus. Raven. At least two were seen near the Arroyo Los Gatos, northwest of Tulare Lake, June 30.

Corvus brachyrhynchos hesperis. California Crow. Common in willow woods at Summit Lake, at the north end of Tulare Lake, and at Buena Vista Lake. Breeding at the north end of Tulare Lake, June 18; one specimen.

Xanthocephalus xanthocephalus. Yellow-headed Blackbird. Several small flocks of females were seen in the tule marshes at the north end of Tulare Lake, June 18-24, and a lone male in breeding condition was shot there June 21. A few females were in the marshes at Buena Vista Lake, July 11.

Agelaius gubernator californicus. Bicolored Blackbird. Abundant in loose flocks thruout the Lake region. Apparently thru breeding when specimens, including large young, were taken at the north end of Tulare Lake, June 18-24.

Agelaius phoeniceus neutralis. San Diego Redwing. Three specimens from the north end of Tulare Lake, June 20-23.

Sturnella neglecta. Western Meadowlark. Abundant and generally distributed.

Icterus bullocki? Bullock Oriole. Orioles, probably this species, were seen several times among willows in the Lake region, but were too far away for positive identification.

Carpodacus mexicanus frontalis. House Finch. Common among willows in the Lake country, and about houses on the open plains. Breeding at the north end of Tulare Lake, June 23; one specimen.

Astragalinus tristis salicamans. Willow Goldfinch. Several small flocks were seen at the north end of Tulare Lake, June 18-24, and at Buena Vista Lake, July 11. A June specimen was not breeding.

Chondestes grammacus strigatus. Western Lark Sparrow. Not very common. A few were seen on the Arroyo Los Gatos, northwest of Tulare Lake, June 30, and along the west side of Tulare Lake, July 7. The species breeds much more abundantly in the Sierra foothills east of the San Joaquin Valley.

Amphispiza nevadensis canescens. California Sage Sparrow. A nearly full-

grown young was taken and several others seen in chaparral along the west side of Tulare Lake, July 7-8. Not previously recorded breeding in the San Joaquin Valley.

Melospiza cinerea heermanni. Heermann Song Sparrow. Abundant. Nesting in willows and among tules. Collected at the north end of Tulare Lake.

Pipilo maculatus montanus. Spurred Towhee. Breeding in small numbers at the north end of Tulare Lake, June 20 (specimen taken); a pair was seen in a thicket at Buena Vista Lake, July 11.

Guiraca cærulea lazula. Western Blue Grosbeak. Not very common, but generally distributed; one specimen.

Hirundo erythrogaster. Barn Swallow. Seen occasionally in the marsh country.

Iridoprocne bicolor. Tree Swallow. A few were nesting in holes in tall willow trees at Summit Lake, June 26; noted at Buena Vista Lake, July 11; one specimen from Summit Lake.

Lanius ludovicianus gambeli. California Shrike. Rather common and generally distributed.

Vireo bellii pusillus. Least Vireo. Very common and in full song, among willows bordering marshes and streams from Summit Lake to Buena Vista Lake; one specimen from Arroyo Los Gatos, northwest of Tulare Lake, July 8.

Dendroica æstiva brewsteri. California Yellow Warbler. A common breeding species among the willows near the mouth of Kings River, June 18-24; noted at Summit Lake, June 27, and at Buena Vista Lake, July 12; one specimen from Tulare Lake, June 20.

Geothlypis trichas arizela. Pacific Yellowthroat. One specimen breeding, from among tules along the north shore of Tulare Lake, June 20th.

Icteria virens longicauda. Long-tailed Chat. Common among willows at Buena Vista Lake, July 11th.

Mimus polyglottos leucopterus. Western Mockingbird. Not common. Two seen along the west side of Tulare Lake, July 8th.

Toxostoma redivivum. California Thrasher. Common among the chaparral along the Arroyo Los Gatos, northwest of Tulare Lake, June 29th to July 1st; a few seen in thickets at Buena Vista Lake, July 11. At Arroyo Los Gatos the birds were apparently thru nesting; the adults were in very ragged plumage, and the young nearly full grown.

Toxostoma lecontei. Leconte Thrasher. Met with among chaparral from near Huron west to the Arroyo Los Gatos, northwest of Tulare Lake. Between these points several family parties were seen, and specimens collected, June 29 to July 1. The old birds were in worn plumage; the young were nearly full-grown. Not previously recorded in the San Joaquin Valley from north of Buena Vista Lake.

Thryomanes bewicki drymæcus. San Joaquin Wren. Several were seen in thickets near the mouth of Kings River, June 20; one specimen.

Troglodytes aedon parkmanii. Parkman Wren. A few were seen in tangled undergrowth among willows near the mouth of Kings River, June 23; one specimen.

Telmatodytes palustris paludicola. Tule Wren. Rather common and breeding among the tules at the north end of Tulare Lake, June 18-24; one specimen.

Psaltriparus minimus californicus. California Bush-tit. A small flock was seen in bushes on Arroyo Los Gatos, northwest of Tulare Lake, July 1.

Polioptila cærulea obscura. Western Gnatcatcher. Several seen among tules and small willows on peat islands in Summit Lake, June 25.

Sialia mexicana occidentalis. Western Bluebird. A few were nesting in holes in tall willow trees at Summit Lake, June 25; one specimen.

Washington, D. C.